

REMARKS

Claims 1, 2 and 4-16 are all the claims pending in the application, prior to the present amendment.

Applicants have canceled claims 12 to 15 because they depend from already canceled claim 3.

Claims 2 and 8 to 11 have been objected to as being improper dependent claims because they do not further limit the subject matter of a previous claim.

Applicants have amended claim 2 and the specification to correct a mistranslations in claim 2 and the specification. In particular, the liquid component having no reactive silicon groups includes polyoxyalkylene polymer having no reactive silicon groups and the plasticizer component, if any.

Please see the table below.

y = Component having no reactive silicon group

x = Component having at least one reactive silicon group.

Content of the components

	No plasticizer	Containing plasticizer
Reactive silicon group-containing polyoxyalkylene	a	a
Unreacted polyoxyalkylene polymer (A)	b	b
Unreacted organic compound (B)	c	c
Filler (C)	d	d
Curing catalyst (D)	e	e
Plasticizer	-	f
y/x	b	(b + f) /a

In view of the correction of the mistranslations, applicants submit that there is no conflict in claim 2 as amended.

According to the present invention, no plasticizer or an incredibly small amount of plasticizer is used to solve a staining problem. However, the reduction of the amount of plasticizer leads to a problem that the cured product tends to have a high modulus and a low elongation. The modulus can be decreased by decreasing the average number of the reactive silicon groups contained in one molecule of the polyoxyalkylene polymer. However, the polyoxyalkylene polymer having no reactive silicon groups causes the staining problem. See page 2, lines 3 to 18 of the present specification.

Accordingly, it is preferable that the curable composition contains a small amount of plasticizers and a small amount of polyoxyalkylene polymer having no reactive silicon groups. That is why the ratio y/x is preferably 0.4 or less as recited in claim 2.

Claim 1 specifies that the curable composition contains the plasticizer in an amount of 0 to 10 parts by weight in relation to 100 parts by weight of the reactive silicon group-containing polyoxyalkylene polymer. When no plasticizer is present, x and y in claim 2 have no relation to the content of the plasticizer.

Even when the plasticizer is present, there is no discrepancy in claim 2 between y/x being 0.4 or less and the content of the plasticizer being 10 parts by weight or less in relation to 100 parts by weight of the reactive silicon group containing polyoxyalkylene polymer. As specified in claim 2, the content y (wt %) of the liquid component having no reactive silicon groups is the sum of the content of the polyoxyalkylene polymer having no reactive silicon groups and the content of the plasticizer component.

In view of the above, applicants request withdrawal of the objection to the claims.

Claims 1-2 and 4-16 have been rejected under 35 U.S.C. § 103(a) as obvious over WO 03/011978 to Okamoto et al, which corresponds to U.S. 7,115,695 to Okamoto et al.

Applicants submit that Okamoto et al do not disclose or render obvious the subject matter of the presently amended claims and, accordingly, request withdrawal of this rejection.

Okamoto et al disclose a curable composition comprising (A) an organic polymer containing at least one hydrolyzable silicon group and (B) one or more carboxylic acid metal salts. Okamoto et al teach that it is more effective to use a plasticizer in combination with fillers because it is possible to enhance elongation of the cured article and to mix a large amount of the filler. See page 31, lines 11 to 13 of WO 03/011978 corresponding to col. 19, lines 40 to 43 of U.S. 7,115,695 to Okamoto et al. Okamoto et al teach away from the curable composition of the present invention which may comprise no plasticizer.

As recognized in the Office Action, Okamoto et al use a large amount of plasticizer in their Examples, namely, approximately 40 to 60 parts by weight based on 100 parts by weight of the component (A). It is usual that the best mode is described in the Examples. Therefore, even though Okamoto et al teach that 1 to 200 parts by weight of plasticizer is preferable based on 100 parts by weight of the component (A), one of ordinary skill in the art would not be motivated to use 10 parts by weight or less of the plasticizer, not to mention no plasticizer.

As already mentioned, no plasticizer or a small amount of plasticizer leads to a problem that the cured product tends to have a high modulus and a low elongation. According to the present invention, the average number of the reactive silicon groups contained in one molecule of the polyoxyalkylene polymer is adjusted. More specifically, one molecule of the reactive silicon group-containing polyoxyalkylene polymer of the present invention has 0.8 to 1.5 reactive silyl groups on average. If the average number of the reactive silicon groups is less than

0.8, it means that the amount of the polyoxyalkylene polymer having no reactive silicon groups is large and it generates a staining. If the number exceeds 1.5, on the other hand, the cured product exhibits a high modulus and a low elongation. See page 21, lines 10 to 25 of the present specification. The effect of the present invention is clear from the comparison of the Examples and Comparative Examples. Comparing Example 4 and Comparative Example 2, it is clear that a staining is conspicuous when the average number of the reactive silicon group is less than 0.8. Comparing Example 5 and Comparative Example 3, it is clear that the elongation deteriorates when the average number of the reactive silicon group exceeds 1.5.

In the Office Action, the Examiner refers to Synthesis Examples 1 and 2 of Okamoto et al as disclosing a silicon-functionalized polymer wherein, 78% and 80% of all chain ends, respectfully, are functionalized with silyl moieties. The Examiner states that this is a slightly higher degree of silylation than is advocated by the present claims, which have an upper value of the average number of the reactive silicon group of 1.5. The Examiner states that the 1.5 value of the present claims translates to 75% of all chain ends.

However, it is not appropriate to compare the silyl group introduction ratio. As set forth in claim 1 of the present application, the number of silyl groups in one molecule of polymer should be compared. Okamoto et al teach that the silyl group introduction ratio was 78% in Synthesis Example 1. In Synthesis Example 1, silyl groups are introduced to allyl-terminated trifunctional polypropylene oxide, as disclosed for example, at column 27, lines 2 to 3. Namely, 2.34 silyl groups are introduced to one molecule of the polypropylene oxide in Synthesis Example 1 of Okamoto et al. The number of the silyl groups in Okamoto et al is much higher than that of the present invention. It is easily predicted that the composition using polypropylene oxide prepared in Synthesis Example 1 of Okamoto et al provides low elongation at break. From

the teachings of Okamoto et al, it is impossible to provide a cured product having a low modulus and a high elongation and to prevent a staining problem at the same time.

In view of the above, applicants submit that Okamoto et al do not disclose or render obvious the subject matter of the presently amended claims and, accordingly, request withdrawal of this rejection.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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